

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2004/029553

International filing date (day/month/year)
08.09.2004

Priority date (day/month/year)
18.09.2003

International Patent Classification (IPC) or both national classification and IPC
H04L12/56, H04L12/46, H04L12/24

Applicant
CISCO TECHNOLOGY, INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

BEYER WEAVER & THOMAS, LLP
ATTY: JKW ASSOC: JMW
ACTION: Rep to
Written Opinion
DUE DATES: 4/14/05

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/029553

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/029553

Box No. II Priority

1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-32, 34-37
	No: Claims	33
Inventive step (IS)	Yes: Claims	
	No: Claims	1-37
Industrial applicability (IA)	Yes: Claims	1-37
	No: Claims	

2. Citations and explanations

see separate sheet

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Re Item V

The following document is referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: WO00/78004

I

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1 (switch), and discloses (the references in parentheses applying to this document) a high availability unit (eg. policy enforcers in D1, pg. 27, 22-24) for a network, the high availability unit comprising

- a master chassis (called primary unit in D1, fig. 26) comprising:
 - a first plurality of line cards (implicit disclosure: fig. 26);

and

- a slave chassis (called backup unit in D1, fig. 26) under the control of the master supervisor card (i.e. the slave chassis receives updates for its database from the primary unit, D1, pg. 29, l. 25-29), the slave chassis comprising:
 - a second plurality of line cards (implicit disclosure: fig. 26); and

and

- a link for communication between the master chassis and the slave chassis (D1, fig. 26 (508), pg. 27, l. 34-38).

Note: the link between the switches is called in the claims of the application "virtual switch" link as it belongs to the virtual switch. However, the "virtual switch" has no special technical features other than a common link and hence is comparable to the link 908 as defined in D1, pg. 27, l. 25-38 or link 508 in fig. 26.

1.1 The subject-matter of claim 1 therefore differs from this known D1 in that:

- a) the high availability unit is a virtual switch (this difference is not inventive as a virtual switch is obviously known to be a high available unit by the person skilled in the art)
- b) the master chassis comprises a master supervisor card for controlling the first plurality of line cards; and
- c) a slave chassis comprises a slave supervisor card

The subject-matter of claim 1 is therefore new (Art. 33(2) PCT).

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1.2 The problem to be solved by the present invention may therefore be regarded as how to control line cards.

1.3 The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons: Using a supervisor to control line cards is a well known feature to the person skilled in the art.

2. The same reasoning applies, *mutatis mutandis*, to the subject-matter of the corresponding independent claims 14 and 31, which therefore are also considered to be not inventive.

2.1 The same reasoning applies, *mutatis mutandis*, to the subject-matter of the partly corresponding independents claim 13 and 30, which therefore are also considered to be not inventive for that part. The additional subject matter of these claims refers to "the master supervisor card communicating with the slave chassis via a virtual switch link protocol that logically extends a data plane of the master chassis to that of the slave chassis". D1 discloses a supervisor (implicitly, D1, pg. 29, l. 25-29), communicating with the slave chassis via a virtual switch link protocol (implicit in D1 as the transmission from the primary to the backup unit needs a protocol) that logically extends a data plane (i.e. data is transferred from the master to the slave chassis) of the master chassis to that of the slave chassis.

The problem to be solved is hence to find an adequate manager to control this updating process. The solution proposed in claims 13 and 30 (see also claims 2, 23 and 32) of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons: Using specifically a line card supervisor to control the data transfer is merely one of several possible possibilities known to the person skilled in the art.

3. Independent claim 33 refers to an initializing process. Such a process is disclosed in D1, fig. 27 and D1, pg. 29, l. 18 for high availability units. The subject-matter of claim 33 is therefore not new (Art. 33(2) PCT) as redundant virtual network devices are obviously high availability units.

4. Dependent claims 2-12, 15-29, 32, 34-37 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, see document D1 and the corresponding

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AUTHORITY (SEPARATE SHEET)**

International application No.

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passages cited in the search report.

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